

### **Amendments to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

### **Listing of Claims**

1-6. (Cancelled)

7. (Currently Amended) A method for transmitting encrypted Common Transport Information Units in a Fibre Channel network having a first network entity and a second network entity, the method comprising:

identifying a Common Transport Information Unit having a source corresponding to the first network entity and a destination corresponding to the second network entity;

determining if the Common Transport Information Unit corresponds to selectors of [[an]] a first entry in a security database, wherein the determining includes comparing a class of traffic of the Common Transport Information Unit against a class of traffic identified in the first entry;

when it is determined that the Common Transport Information Unit corresponds to the selectors of the first entry:

assigning a security association identification to the Common Transport Information Unit;

creating a second entry in the security database, the second entry including the security association identification and key and algorithm information;

encrypting a first portion of the Common Transport Information Unit using the key and algorithm information associated with the entry in the security database;  
and

transmitting the Common Transport Information Unit to the second network entity.

8. (Original) The method of claim 7, wherein the entry in the security database was created after a Fibre Channel authentication protocol was executed between the first and second network entities.

9. (Original) The method of claim 7, wherein the Common Transport Information Unit carries an Extended CT\_IU preamble and is confidentiality protected by encryption of the CT\_IU payload.

10. (Original) The method of claim 7, wherein a first portion of the Common Transport Information Unit is encrypted using an encryption algorithm selected from the group consisting of DES, 3DES and AES.

11. (Original) The method of claim 9, wherein parameters in the Extended CT\_IU preamble or in a Basic CT\_IU preamble are protected for confidentiality.

12. (Original) The method of claim 11, wherein a CT\_IU payload is padded prior to encrypting the first portion of the Common Transport Information Unit.

13. (Currently Amended) An apparatus for transmitting encrypted Common Transport Information Units in a Fibre Channel network having a first network entity and a second network entity, the apparatus comprising:

means for identifying a Common Transport Information Unit having a source corresponding to the first network entity and a destination corresponding to the second network entity;

means for determining if the Common Transport Information Unit corresponds to selectors of [[an]] a first entry in a security database, wherein the means for determining includes means for comparing a class of traffic of the Common Transport Information Unit against a class of traffic identified in the first entry;

means for, when it is determined that the Common Transport Information Unit corresponds to the selectors of the first entry:

assigning a security association identification to the Common Transport Information Unit;

creating a second entry in the security database, the second entry including the security association identification and key and algorithm information;

~~means for~~ encrypting a first portion of the Common Transport Information Unit using the key and algorithm information associated with the entry in the security database; and

~~means for~~ transmitting the Common Transport Information Unit to the second network entity.

14. (Original) The apparatus of claim 13, wherein the entry in the security database was created after a Fibre Channel authentication protocol was executed between the first and second network entities.

15-18. (Cancelled)

19. (Currently Amended) A network device for sending encrypted Common Transport Information Units in a Fibre Channel network, the network device comprising:

a plurality of ports for communication with other network devices in the Fibre Channel network; and

at least one processor configured to perform the following steps:

~~set a security control indicator in a Common Transport Information Unit;~~

~~set a security association identifier associated with the Common Transport Information Unit corresponding to an entry in a security database;~~

~~encrypt at least a first portion of the Common Transport Information Unit by using algorithm information contained in the entry in the security database; and~~

~~send the Common Transport Information Unit to a second network device in the Fibre Channel network.~~

identify a Common Transport Information Unit having a source corresponding to the first network entity and a destination corresponding to the second network entity;

determine if the Common Transport Information Unit corresponds to selectors of a first entry in a security database, wherein the determining includes comparing a class of traffic of the Common Transport Information Unit against a class of traffic identified in the first entry;

when it is determined that the Common Transport Information Unit corresponds to the selectors of the first entry;

assign a security association identification to the Common Transport Information Unit;

create a second entry in the security database, the second entry including the security association identification and key and algorithm information;

encrypt a first portion of the Common Transport Information Unit using the key and algorithm information associated with the entry in the security database;

and

transmit the Common Transport Information Unit to the second network entity.

20. (New) The method of claim 7, wherein the determining includes comparing the source of the Common Transport Information Unit against a source identified in the first entry.

21. (New) The method of claim 7, wherein the determining includes comparing the destination of the Common Transport Information Unit against a destination identified in the first entry.

22. (New) The apparatus of claim 13, wherein the means for determining includes means for comparing the source of the Common Transport Information Unit against a source identified in the first entry.

23. (New) The apparatus of claim 13, wherein the means for determining includes means for comparing the destination of the Common Transport Information Unit against a destination identified in the first entry.

24. (New) The network device of claim 19, wherein the determining includes comparing the source of the Common Transport Information Unit against a source identified in the first entry.

25. (New) The network device of claim 19, wherein the determining includes comparing the destination of the Common Transport Information Unit against a destination identified in the first entry.